

REMARKS/ARGUMENTS

The drawings currently stand rejected in Section 1 of the Office Action. Enclosed are amendments to Figures 2 and 4 which should overcome the Examiners objections raised in Paragraph 1 and 2 of the Drawings Section. In Paragraph 3 the Examiner was under the impression that reference character 10, called for the specification, was not shown in the drawings. In this respect the Examiners attention is directed to Figure 1 where reference character 10 is located just below and to the right of the figure number. Accordingly, the drawings, as now amended, should satisfy the rules and overcome the Examiner's objections.

Claims 1 through 14 are currently pending in the application and stand rejected. In Section II of the Office Action Claims 3 – 5, 7, 11, 13 and 14 were rejected under 35 U.S.C. Section 112, second paragraph. The amendments to Claims 3 – 5, 7, 11 and 13 address the Examiners objections set forth in Subsections 1.1 through 1.8 of Section II.

In Subsection 1.9 the Examiner objected to the term “and/or” in line 1 of Claim 14 as ambiguous. Claim 14 calls for the manipulator of Claim 1 including pneumatic and/or hydraulic drives in combination with a single motorize drive. Applicants' don't understand why the term “and/or” is ambiguous in this context. It seems to clearly mean that the manipulator includes either pneumatic drives in combination with a single motorized drive, hydraulic drives in combination with a single motorized drive or a combination of pneumatic and hydraulic drives in combination with a single motorized drive. It would be appreciated if the Examiner would be more explicit as to why the term in this context is considered ambiguous.

In Section III of the Office Action Claims 1 -7 and 14 are rejected under 35 U.S.C. Section 102 (b) as anticipated by Gugel (U.S. 4,438,805). In support of this rejection the Examiner asserted in Subsection 1.1 that “Gugel discloses a base member (8a/8b), a holder (6), the base member having a gripper (8), a block member (11) for linear and rotary movement, and a foot member having a gripper (8c/8d). Gugel does not disclose a base member (8a/8b). Gugel discloses a carrying body 9 that is the base member that includes, in the embodiment shown in Figure 2, four expanding mandrels 8a, 8b, 8c, and 8d. All of the expanding mandrels are associated with the carrying body 9

and are not directly connected to any of the other components that are directly or indirectly coupled to the carrying body 9. A support 11 is mounted to and moveable in a straight line in the X direction along a track 10 of the carrying body 9. A boom 7 is mounted to the support 11 so as to pivot in a plane parallel to the carrying body 9. The boom 7 has a mouthpiece 6 at its distal end to mate with the steam generator tubes openings. Accordingly, if one were to consider the carrying body 9 of Gugel as the base member, then the base member of Gugel does not contain a holder for holding tooling or an inspection device as called for in element (a) of Applicants' Claim 1. If one was to consider the boom 7 of Gugel as the base member then the base member does not contain at least one gripper as called for in element (a) of Applicants' Claim 1. If one was to consider the support 11 of Gugel as the block member then it would correspond to the description of Applicants' element (b) in Claim 1 which calls for a block member connected to the base member for linear movement and rotation relative thereto. However, there is no corresponding foot member in Gugel connected to the block member for linear movement relative thereto, the foot member having at least one gripper for releasable gripping a tube extending through the tube sheet, as called for in element (c) of Applicants' Claim 1. As stated in *In re Marshall* 578 F2d 301, 198 USPQ 344 (CAFC 6/30/78):

To constitute anticipation, all material elements recited in a claim must be found in one unit of prior art . . . an accidental or unwitting duplication of an invention cannot constitute an anticipation.

In Subsection Paragraph 1.2 of Section III of the Office Action Claim 2 was rejected under 35 U.S.C. Section 102 (b) over Gugel. In support of the rejection the Examiner asserted that Gugel additionally discloses two directions of linear travel citing Figure 2. Figure 2 shows X and Y coordinates, but only provides linear travel in the X direction along the track 10. Accordingly, Gugel fails to teach two directions of linear travel. The Y coordinates are covered by the rotary motion of the beam 7 which does not traverse a linear path.

In Subsection 1.3 of Section III of the Office Action to support a rejection based on anticipation of Claim 3 the Examiner asserted that Gugel additionally discloses

horizontal and vertical directions (8a/8b) can be moved in Z while block (11) remains stationary in Z. Claim 3 is dependent upon Claim 2 which calls for the manipulator of Claim 1 wherein the block member has two directions of linear travel between the block member and the base member. Claim 3 calls for the manipulator of Claim 2 wherein the two directions of linear travel are in the horizontal and vertical directions. Accordingly, the claims call for horizontal and vertical movements of the block member relative to the base member. Gugel's reference characters (8a/8b) refer to the expandable mandrels. The expandable mandrels are a intricate part of the carrying body which is the base member and does not establish vertical movement between the block and the base member. Accordingly, Claim 3 distinguishes over the teachings of Gugel for the individual limitations that it introduces in addition to those of the claims from which it depends.

In Subsection 1.4 of Section III of the Office Action Claim 4 was rejected; the Examiner asserting that Gugel additionally discloses the gripper exerting a force in a direction. Claim 4 calls for the manipulator of Claim 1 wherein at least one of the grippers exerts a force in the direction to draw at least one of either the base member or the foot member associated with at least one of the gripper towards the tube sheet. There is no mention within Gugel to the expandable mandrels exerting such a force. The only mention is that the expandable mandrels expand within the tubes which is not the force called for in Claim 4. Accordingly, Claim 4 distinguishes over Gugel for the individual limitations that it introduces.

Subsection 1.5 of Section III of the Office Action rejects Claim 5 under 35 U.S.C. Section 102 in of Gugel. The Examiner asserted in support of the rejection that Gugel additionally discloses a stop. Claim 5 calls for the manipulator of Claim 4 including a stand-off pin that cooperates with at least one of the grippers exerting the force to draw said base member and/or said foot member in the direction of the tube sheet to maintain said member a predetermined fixed distance from the tube sheet. Applicants have not been able to identify any teaching within Gugel that discloses such a stand-off pin. If after reviewing the amendments to the Claim the Examiner is of the opinion that such a teaching exists in Gugel Applicants would appreciate it if the Examiner would point out the column and line in which such teaching appears.

In Subsection 1.6 of Section III of the Office Action the Examiner asserted in support of the rejection to Claim 6 that Gugel additionally discloses the foot as having two spaced grippers. However, the only structure within Gugel et al. that contains grippers is the carrying body 9 so Gugel could not rightfully be considered as anticipating Claim 6 which calls for the manipulator of Claim 1 wherein the foot member and block member each have at least two spaced grippers. Accordingly, Claim 6 distinguishes over Gugel for the individual limitations that it introduces.

In Subsection 1.7 of Section III of the Office Action the Examiner supported the anticipation of Claim 7 by asserting that Gugel additionally discloses the grippers having insertion fingers and a limit switch, citing column 5. Applicants were not able to identify any mention in column 5 of a limit switch nor was one to be found in the remaining description of the specification of Gugel. If the Examiner is of the opinion that the mandrels specifically disclose limit switches it would be appreciated if he pointed out the column and line in which such a teaching is disclosed. Accordingly, it is respectfully asserted that Claim 7 distinguishes for the specific limitation that it introduces.

In Subsection 1.8 of Section III of the Office Action the Examiner supported the rejection of Claim 14 based on anticipation by asserting that Gugel additionally discloses a pneumatic drive and a motorized drive. Claim 14 is dependent upon Claim 1 and accordingly distinguishes for the reasons noted for Claim 1.

In Paragraph 1 of Section IV of the Office Action Claims 8 – 9 are rejected under 35 U.S.C. Section 103 (a) as being unpatentable over Gugel in view Gebelin (US 4,004,698). In Subsection 1.1, in support of the rejection of Claim 8, the Examiner asserted that Gugel teaches the grippers having insertion fingers biased against an interior of the tube. While Gugel does not teach the structure of the grippers (expandable mandrels) it refers to the German counterpart of U. S. Patent 4,004,698 to Gebelin for a detailed description of the grippers. The Examiner asserted that the Gebelin taught an internal piston that forces bearings to move up a tapered raceway to force the fingers out against the interior of the tube. The Examiner concluded that it would be obvious to one of ordinary skill in the art to modify Gugel with the piston of Gebelin since the combination is explicitly taught in Gugel.

Claim 8 calls for the manipulator of Claim 1 wherein each of the grippers includes insertion fingers that are insertable into a corresponding one of said tubes extending through the tube sheet, wherein the insertion fingers are biased against an interior of the corresponding tube by an internal piston that forces bearings to move up a tapered raceway between the piston and the interior of the insertion fingers, forcing the insertion fingers out against the interior of the corresponding tube. Gebelin does teach a gripper that includes a split tube finger with an internal piston that is forced against the split tube opening to spread the sections of the tube, however, there is no showing or mention in the reference to bearings. In re Fritch 972 F2d 1260, 23 USPQ 2d 1780 (CAFC 8/11/92) the court stated

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification . . . here the Examiner relied upon hindsight to arrive at the determination of obvious. It is impermissible to use the claimed invention as an instruction manual or template to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has stated that “[o]ne cannot use hindsight reconstruction to pick and chose among isolated disclosures in the prior art to deprecate the claimed invention.”

In this instance the use of bearings is not mentioned in either reference so the same could not rightfully be considered obvious without resort to the teachings of Applicants’ specification which is clearly improper. Accordingly, Claim 8 should not rightfully be considered obvious over Gugel in view of Gebelin.

In subparagraph 1.2 of Section IV of the Office Action the Examiner supported the obviousness rejection of Claim 9 by stating that Gugel refers to Gebelin for a detailed description of the grippers and Gebelin teaches the fingers have a spring bias. Claim 9 is dependent, on Claim 8 and therefore distinguishes for the distinguishing limitations noted for both Claim 8 and Claim 1 from which Claim 8 depends. Accordingly, Claim 8 should not rightfully be considered obvious over Gugel in view of Gebelin.

In Subsection 2 of Section IV of the Office Action Claims 10-11 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Gugel in view of Gerkey. In Subsection 2.1 of Subsection 2, to support the rejection of Claim 10, the Examiner asserted that Gugel fails to teach that the manipulator is sized to permit more than one.

Gerkey was cited for a teaching of a manipulator sized to permit more than one. Claim 10, as now amended, calls for the manipulator of Claim 1 wherein the manipulator is sized to permit more than one independently operated manipulator, of substantially the same design, to be suspended from a underside of a semi-circular portion of the tube sheet in an inlet or outlet section of a hemispherical channel head of a steam generator and be operated in parallel. Gerkey discloses separate manipulators respectively in an inlet section and outlet section of the hemispherical channel head of a steam generator. There is clearly room for only one manipulator in the inlet and one manipulator in the outlet. Claim 10 has been clarified to physically state that Applicants manipulator is designed to permit more than one manipulator to either work in the inlet chamber or outlet chamber of the channel head. Accordingly, Claim 10 as amended clearly distinguishes over Gerkey for the individual limitation that it introduces in addition to those identified above for Claim 1 from which it depends. In Subparagraph 2.2 of Subsection 2 of Section IV of the Office Action the Examiner essentially applied the same support for the rejection of Claim 11 as provided above for Claim 10. Claim 11 is dependent upon Claim 10 which is dependent upon Claim 1 and therefore distinguishes for the reasons noted above.

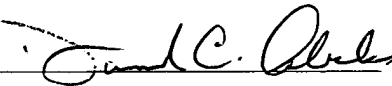
In Subsection 3 of Section IV of the Office Action Claims 12-13 are rejected under 35 U.S.C. Section 103 (a) as being unpatentable over Gugel in view of Ward. Claim 12 calls for the manipulator of Claim 1 wherein the manipulator weighs as much as approximately 30 pounds. Ward teaches in column 9 that typically the manipulator carriage 32 may weigh between 20 and 40 pounds. However, Ward fails to cure the deficiencies previously noted for Gugel. Accordingly, Claim 12 distinguishes over Gugel in view of Ward for the reasons noted for Claim 1.

Claim 13 calls for the manipulator of Claim 12 wherein the manipulator supports a payload of much as 70 pounds. In Subparagraph 3.2 of Section IV of the Office Action the Examiner asserted with regard to Claim 13 that Gugel additionally teaches a payload of 70 pounds or less. Applicants could not find any teaching within Gugel that shows that Gugel can support a payload as much as 70 pounds. If the Examiner is of the opinion that Gugel does provide such a teaching it would be appreciated if he would point out the column and line in which such a teaching appears. Accordingly, Applicants' respectfully assert that Claim 13 distinguishes over Gugel in view of Ward

for the specific limitation that it introduces in addition to those of the claims upon which it depends.

Accordingly, Applicants have shown wherein Claims 1 through 14 satisfy the formal requirements of the patent laws and patentably distinguish over the references. Therefore, reconsideration allowance and passage to issue of this application are respectfully requested.

Respectfully submitted,

By 

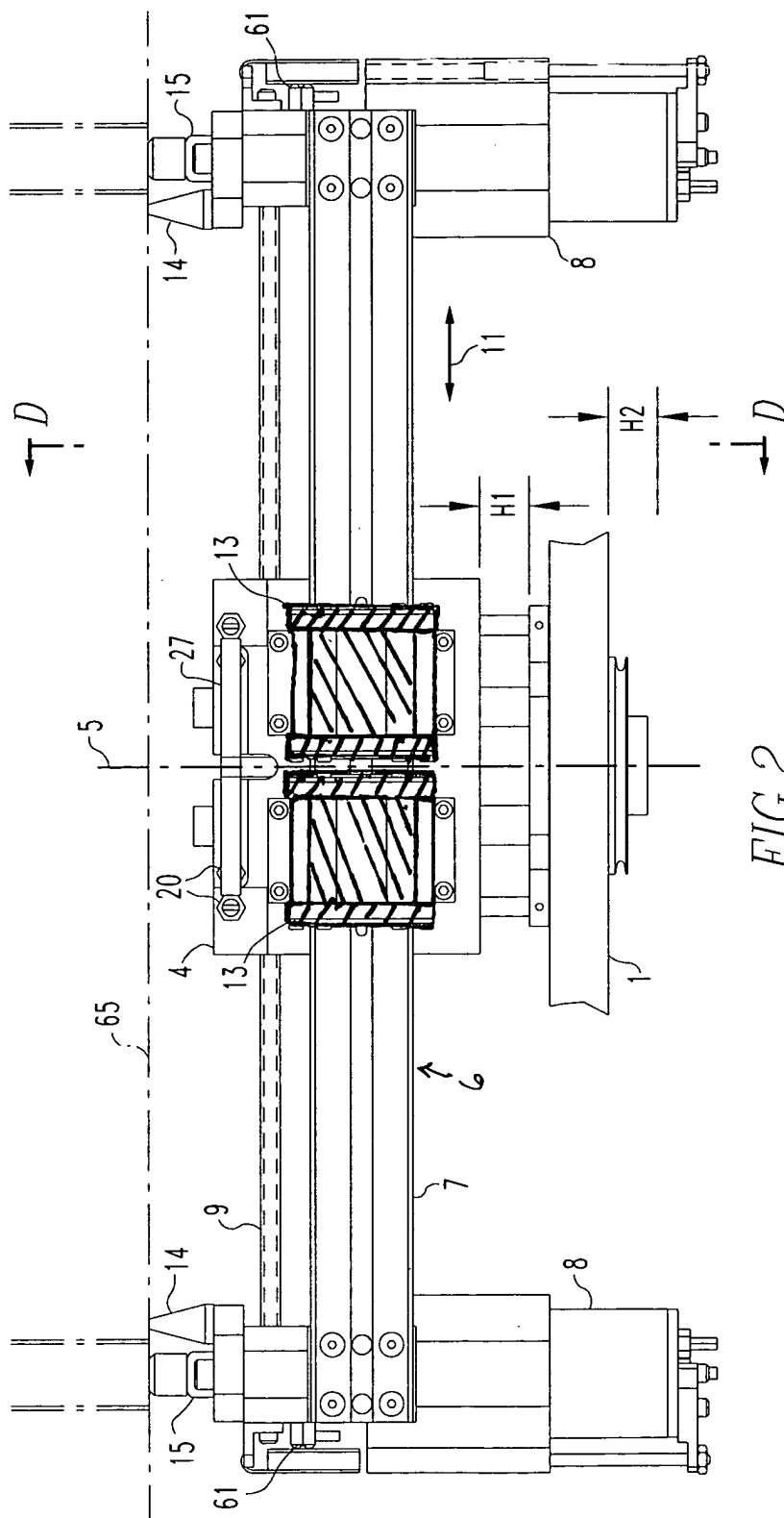
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Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 2 and 4. These sheets, which include Figures 2 and 4 replace the original sheets including Figures 2 and 4. In Figure 2 the slide box 13 has been amended to more accurately correspond to the side view shown in Figure 5. Figure 4 has been amended to more correctly identify the lower dimension to the right of the Figure as H2.

Attachments: Replacement Sheet

Annotated Sheet Showing Changes



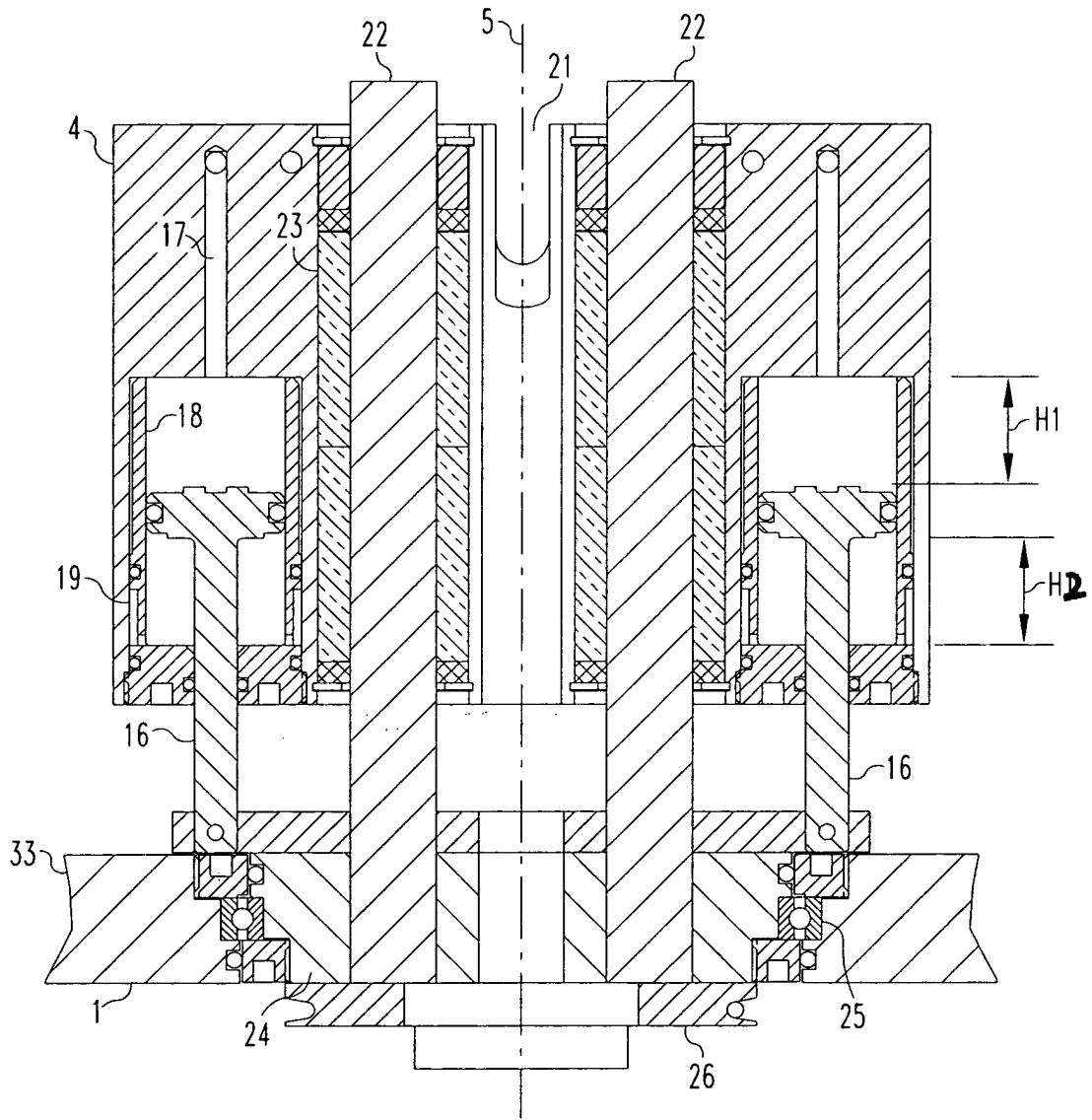


FIG. 4